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MEETING PLACE

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"VACATION '66"

Some comments on what summer vacations mean for Museum Staff

PETER C. SWANN, Director

The Royal Ontario Museum serves many sectors of the community. Because it is a university museum, the largest in the world, many of its academic personnel find that what time they can spare from their museum duties is taken up by teaching. They must find time to prepare their lectures as well as deliver them. They must keep up with research work in their respective fields. All this is as it should be and they enjoy contact with colleagues and with young people in their areas of study. They have a lot to offer and the material in their respective departments adds a valuable dimension to university teaching.

But when the academic year ends, teaching members turn their full attention to their own work or head for their cottages—happily often combining the two. Then the Museum looks to its summer programme.

Many thousands of visitors come to Toronto during the summer and the ROM must be mindful of their needs. Its other great function of service to the general public does not stop in the summer. Yet the curatorial staff has its own research projects at home and in many parts of the world. It has contributed fully to scholarship in the last half-century and intends to continue to do so. Again, the collections must grow and in many fields the summer is the time to gather material. Somehow the demands of museum, teaching and research must be reconciled and family holidays must, of course, be fitted in. Often expeditions can only be carried out in the summer. Learned congresses often are held in the summer months and our members

must attend them—and indeed often contribute to them. Exhibitions must be prepared for the winter. The schedule can be very heavy and we can be excused an envious glance at our exclusively teaching colleagues!

One of the duties and vicarious pleasures of the Director is discovering where his staff is during these months, what interesting avenues of research they are pursuing, and making it possible for them to do so. As new Director of this great museum I have found this so absorbing that I felt our readers might be interested in knowing what just a few of our departments do during the "vacation" time. The Royal Ontario Museum is an exciting place to work.

JERUSALEM

The big "dig" at the old city

A. D. TUSHINGHAM, Chief Archaeologist

During the summer of 1966, as for every summer since 1962, the writer has spent his "vacation" digging in Jerusalem, Jordan. The Royal Ontario Museum has, for the past five years, been collaborating with the British School of Archaeology in the excavation of this famous old city with Dr. Kathleen M. Kenyon of St. Hugh's College, Oxford as the Director, and the writer as Associate Director. This year, the ROM's participation was supported by grants from its own budget, from funds at the disposal of the President of the University of Toronto, by donations from McGill, Waterloo Lutheran, Trinity College, Trent, Carleton and from several individuals. Our Canadian staff included staff members of several of these institutions: Robert Culley of McGill, Norman Wagner of Waterloo Lutheran, Ronald Sweet of the University of Toronto, Ernest Clarke of Victoria; and James Humphries, a graduate of the U. of T. who had participated in our British Honduras project in the spring of 1966.

As in past years, work was undertaken in several areas in and around the old walled city in an attempt to ascertain its physical limits at different stages of its history. We can now say that the present walls—built by the

Turkish Sultan Suleiman the Magnificent in 1542—follow closely the lines of the city as rebuilt by the Roman Emperor, Hadrian in A.D. 132–35. The north wall also coincides with the third North Wall built by the Jewish king, Herod Agrippa in A.D. 40–44 but the southern wall of his time included also the original site of the ancient city (David's Zion) and the southwest hill—both of which were excluded from Hadrian's city.

We are also now certain of the limits of the early Canaanite (Jebusite) city which David captured and have quite a definite idea of the lines of the extension to the north which Solomon undertook when he built his Temple—in the present Haram area within the present city walls.

In spite of these achievements, there is still considerable uncertainty as to the lines of the walls in the period between Solomon and Herod Agrippa—a period of 1,000 years. We are confident that the evidence is still hidden beneath the buildings, ancient and modern, which make up the living city of Jerusalem, but we cannot dig wherever we wish and we must depend, in many cases, on indirect evidence. While, for instance, our work in the Armenian Garden—within the southwest corner of the present walled city—has produced evidence of occupation in the century immediately preceding the destruction by Nebuchadnezzar, in the Roman period before the destruction by Titus, in the Byzantine period before the Muslim conquest, and in the period of the Mamelukes (roughly the 14th–15th centuries) we cannot automatically assume that this area was within the city walls. It could have been an extramural suburb. Only literary evidence and archaeological evidence from other areas leads us to assume that it was within the walls at certain periods. Where such evidence is lacking, we cannot adduce archaeological evidence. We cannot excavate the walls in this area—even if they are still there—because we are working on the edge of No-Man's Land between the Jordanian and Israeli sectors of the city and the ancient walls are presumably in the area we cannot touch. Incidentally, as you can imagine, we are working in a military area, restricted to visitors, and we are under the constant supervision of the Jordanian soldiers on the city wall and the surveillance of Israeli soldiers stationed in the ancient shrines of the Dormition and the Tomb of Nebi Daud which are in Israel but overlook the city walls at this point.

On the eastern slopes of ancient Zion, however, we can trace the lines of the city walls throughout the period of the Hebrew monarchy, the time of Nehemiah, the Hasmonaeans and Herod the Great—so filling the 1,000-year lacuna on this side. We can be confident that the west wall of the city in this same period followed the west slope of the hill of Zion, but only in two places have we found traces of the wall itself. The reason for this is the fact that the Tyropoeon Valley—which bounds the hill of Zion to the west—

is now so full of the accumulated rubbish of centuries that the problem of excavating deeply into it to the ancient rock levels is slow and even dangerous.

The scientific results, however, have already dispelled many of the misconceptions about the size and boundaries of the ancient city at different periods of its history. They also have produced new archaeological evidence bearing on the authenticity of the traditional site of the Holy Sepulchre, on the age of the city itself, and on its material culture at all stages of its existence.

EXPLORING THE "NEW RED SANDSTONE"

Study indicates the Atlantic provinces may be a source for fossils

Loris S. Russell, Chief Biologist

Two very important periods in the history of land animals are those known to the geologist as the Permian and the Triassic. During these times widespread arid conditions resulted in deposition of reddish sediments. In the old system of naming the major geological units, these were collectively known as the New Red Sandstone in distinction from the Old Red Sandstone (Devonian) which predated the great period of coal deposition (Carboniferous). In the southwestern United States and in South Africa and South America the Permian and Triassic rocks have yielded very significant fossil skeletons which show us how reptiles developed from amphibian-like stock and how they diversified to produce the dinosaurs and birds on the one hand, and the mammals on the other.

Fossil reptiles from the Permian and Triassic periods are not well represented in the collections of the Royal Ontario Museum. A few have been obtained by purchase or exchange, and one of these, the skeleton of the

fantastic fin-backed reptile, is being prepared for exhibition. Much more material, however, is needed both to fill in the record of the evolution of higher reptiles and mammals as displayed to the public and to strengthen the series of study and teaching specimens which enable the Museum to contribute much to the academic programme of the Departments of Geology and Zoology in the University of Toronto.

Two years ago plans were worked out to send an expedition to South Africa where, in collaboration with the University of Witwatersrand, it would have explored the Permian and Triassic rocks in search of good display and study specimens, leaving for the South African palaeontologist anything found that was new to science. This seemingly ideal arrangement for both parties was no longer feasible after the South African Government passed legislation making it illegal to remove any fossil specimens from the country, irrespective of their relative scientific value.

Canada has considerable development of rocks of New Red Sandstone type. The Annapolis Valley of Nova Scotia and the Fundy shore of New Brunswick include a number of exposures of red sandstone and shales of Triassic age, and almost the entire area of Prince Edward Island is underlain by red rocks of Permian age. A few years ago a geologist, Mr. William Take, of the Nova Scotia Museum found fossil bones in the Triassic rocks around Minas Basin. Dr. W. Langston, Jr. working for the National Museum of Canada, obtained enough fossil bones from Prince Edward Island to confirm the tentative assignment of the rocks to the Permian system.

Before any further planning of expeditions to the "New Red" of far away places, it seems desirable to examine the possibilities of obtaining fossils, at least of study and teaching quality, from these rocks in the Maritime Provinces. Accordingly, the writer undertook a survey of possible fossil localities in the Bay of Fundy region on Prince Edward Island. About four weeks were spent during the past summer examining exposures from south of Saint John, New Brunswick, to the Minas Basin area of Nova Scotia, and along the south coast of Prince Edward Island near Charlottetown. No significant fossils were found, but numerous notes and photographs were taken and specimens of the rocks collected for study. Of the various localities visited, the most promising seemed to be those in the vicinity of Grand Pré and Kingsport, Nova Scotia, but very intensive work would be necessary, preferably in the spring when falls of fresh rock from the cliff would make available new exposures to be searched. Experiments should be tried in disintegrating the rock and screening the residues or even the manual breaking of the rocks in search of bone as has been successful in other localities.

Fossil collecting in these rocks would require tedious work and much patience, but the returns could be very important. Scraps representing the

earliest dinosaurs and certain kinds of mammal-like reptiles have already been found. Even the earliest mammals, which we know were in existence by Late Triassic time, may be represented by bones in the red sand and gravels that make up the "New Red Sandstone" of this region.

Perhaps the most interesting locality visited from a geological viewpoint was the occurrence on the Nova Scotia shore of the Bay of Fundy, a few miles down the coast from Cape Split, of limestone beds representing the once extensive sedimentary rocks that were deposited on top of the great volcanic flows which today form North Mountain. These flows brought to a close the deposition of the New Red Sandstone type sediment, and it is a most intriguing question whether these overlying limestones belong to the same geological period or to a later time in earth history. Only the discovery of recognizable fossils in these rocks will settle the problem. Altogether the Bay of Fundy region of Nova Scotia and New Brunswick represents a most promising area for future fossil collecting where important geological and palaeontological discoveries remain to be made, and where good fortune might even provide a relic of an early mammal not far off the remote ancestry of Man himself.

IN SEARCH OF THE MARITIMES

The continuing hunt for textiles made and used in Canada before 1900

HAROLD B. BURNHAM, Associate Curator, Textiles Department

My "vacation" for the past summer took the form of over ten thousand miles of combined travel and research in the Atlantic Provinces. Taking my formal holidays of a month plus six weeks leave of absence in the middle of June, I headed east with my family as drivers and co-workers for ten weeks of intensive fieldwork to uncover and study examples of textiles made

and used in Canada before 1900. This was an extension of the major research project of the Textile Department that was launched in 1947 to establish a central file of all information that could be garnered. In the first two years, it got off to a flying start, thanks to financial aid from various branches of the textile industry in Ontario. Since then, it has been pursued constantly on a "chance and opportunity" basis. Even with this handicap, a substantial and valuable archive has slowly been built up. Last March there was a new break-through: I was awarded a Senior Fellowship by the Canada Council for work outside Ontario, in those parts of the country that have long hung tantalizingly over the horizon.

This Maritimes expedition is only the first of four to be followed up during the coming year, and, in order to save on expenses for other "vacations", the plan was to camp whenever possible. The idea was sound as it meant working in a holiday mood, but it was soon discovered that it was not feasible for stops of less than two days: shifting camp cut too seriously into working time, and we had to fall back on softer accommodation. The same was true when fieldwork became particularly intense, when interviews and the recording of material did not end until well after dark, and the day's notes had to be written up before bedtime to be clear for the morrow.

In the course of the summer, much was learned and recorded, and there is a large volume of notes and photographs to prove it. Now that the former have been typed, there are over ten pounds of them as evidence! From some points of view, the work was undertaken just in time. In the course of twenty years, we have never had an opportunity to talk with a traditional professional weaver in Ontario: all were gone long ago. In Cape Breton, we found the living tradition, and we spent enjoyable sessions with three weavers, all in their nineties, who were able to answer questions that had long puzzled us, and confirm deductions that had been reached solely through the study of old material. We found new terms for old friends: the overshot coverlets of New England and Ontario were "draft rugs" in Prince Edward Island, and great merriment was caused by our not knowing the right name. They were turned up during the course of a memorable day visiting farmhouses along the roads from Souris to East Cape in Prince Edward Island. In Cape Breton and Newfoundland, we were told of the spinning frolics where women walked through the woods to gather at a neighbour's house, perhaps some miles away, to spin the wool and flax that had been prepared, and of the milling frolics where the cloth was fulled to the accompaniment of Gaelic waulking songs. These were Scottish traditions where my wife's Scottish descent was useful, but elsewhere we discovered the Acadian heritage: at Caraquet in New Brunswick, Miscouche and Egmont Bay in Prince Edward Island, Chéticamp in Cape Breton, and at the University of Moncton. The vitality of this tradition, which

differs from that of Quebec, survived the terrors and hardships of the expulsions of 1755 and 1758 when these simple farmers were in the front line of fire in the English conquest of Canada. It, too, now is passing, and it is important that it be remembered as a tribute to their strength in adversity, and to their part in Canadian history. In other parts of Nova Scotia and New Brunswick, the pre-revolutionary Planters and the Loyalists made their contributions which both resemble and offer interesting contrasts to that which grew up in Ontario in the early days of settlement in the late eighteenth century.

If the art of holiday is the art of change, then we had a holiday, and a good one too, but it could hardly be called a "vacation" in the normal sense. Despite the constant travelling and the intensive work involved to gather every possible scrap of knowledge, it leaves wonderful memories: the beauty of the red shores and fields of Prince Edward Island, the bays and coves along the Atlantic coast from Louisbourg to Cape Sable Island, the diked richness of Beaubassin and Grand Pré, the broad expanse and wooded hills of the St. John River, and the rugged grandeur of Cape Breton. Over and above all this was the friendly and hospitable welcome of all the people we met, in museums large and small, in houses and farmhouses on the coasts or tucked away in hidden valleys. These are to be treasured always.

FROM TV TO THE GREAT LAKES

Teaching, television production, field study—A good Summer? Yes!

Walter M. Tovell, Curator, Geology Department

Now that the leaves have turned and fall is here, geologists sit at their desks and ponder the activities of the past summer. They ask: "was it a good one?" For the Curator of Geology in the Museum, the answer is: "yes".

The "vacation" began around the middle of May, after his return from the University of Toronto Geology Camp at Tweed, Ont. There, along with colleagues from the Department of Geology at the University of Toronto, the Curator instructed third year Engineering and Arts students in certain field procedures and observations used in constructing geological maps. This session marked the tenth year of the project.

In June, a "first" for the Museum followed. It consisted of writing, narrating, and generally assisting in the final production of a thirty-minute television programme on the geological history of Niagara Falls and the Niagara gorge. The task was undertaken by the Curator for the Canadian Broadcasting Corporation Series, "The Nature of Things", shown on the Trans-Canada Network to an estimated audience of one million people. This type of programme was a "first" in that previously no attempt had been made to use television to give an informal scientific look at a natural phenomenon. The success of the venture is perhaps best indicated by those high school teachers who, after having seen the programme, expressed the wish that more were available as resource material for teaching purposes.

This past summer, North York Township initiated an enrichment course for special high IQ Grade 11 students. Among the topics selected was "Geology", and the Curator was invited to assist in the programme. As an introduction, he guided the students through the Geology and Palaeontology Galleries of the Royal Ontario Museum, and subsequently led field trips to the Niagara Escarpment at Hamilton and to Scarborough Bluffs.

Other instructional work included a week at the Federation of Ontario Naturalists' Camp at Red Bay, Ont., on the Bruce Peninsula. This is the seventh year of the Curator's participation in this summer camp which is attended by adults both layman and professional. It provides guidance relative to the physical environment of the Bruce Peninsula in the form of lectures and field trips.

Additional field instruction was given at a course operated by the Metropolitan Toronto and Region Conservation Authority at the Albion Hills Conservation School. Here, for teachers wishing to enroll, instruction is given on conservation practices and procedures in the Metropolitan Toronto Region. The Curator was asked to explain the geological background for these operations, and to acquaint the participants with the general geological history of the region. This phase of knowledge is generally lacking among teachers.

During the month of July we spent three weeks in the field, at Sault Ste. Marie, Ont. as the guest of the Geological Survey of Canada Field Party under the leadership of Mr. C. F. M. Lewis. Field studies were directed towards the interpretation of the raised beaches and shorelines of the ancestral Great Lakes in this area. It is well known that the Great Lakes evolved through a

system of transitory lakes, following the last retreat of the glaciers. The changes took place over the last fifteen thousand years or so, due to the withdrawal of the ice and the tilting of the earth's crust. The shorelines and beaches of the Sault Ste. Marie area have been noted for many years, but they have not been studied to any extent in detail. An interpretation of their succession is particularly important in working out the details of the relationships between the ancestral Great Lakes of the Superior Basin and the Huron Basin. Shorelines similar to those in the Sault Ste. Marie area are well known from other parts of the Great Lakes as well, but most of the work has been concentrated in the more accessible southern regions. Thus, correlations are rather difficult between the southeasterly and northwesterly parts of the Huron Basin, and the Superior Basin. In order to assist in understanding the published correlations between these areas and the Sault Ste. Marie area, a reconnaissance of some of the shorelines, which have been described in the literature, was made on Manitoulin Island and on the Bruce Peninsula. It is apparent that these areas also require more study.

The history of the Great Lakes not only includes a succession of lakes higher in elevation and of larger dimensions than the present lakes, but also lakes that were smaller. The record of these bodies of water is submerged below the level of the present lakes. A study of these shrunken Great Lakes was initiated by the late Dr. Roger Deane of the Department of Geology at the University of Toronto, using scuba equipment. Unfortunately, Dr. Deane met an untimely death while investigating some of these features during underwater exploration off the Bruce Peninsula.

Mr. William Finlayson, a student colleague of Dr. Deane's, assisted in this project. A grant obtained by the Curator from the Department of University Affairs made it possible to hire Mr. Finlayson on a part-time basis, and to work over the data which Dr. Deane had collected. As yet it has not been possible to interpret the information, but all pertinent observations have now been recorded and placed on maps and profiles. These will be studied during the winter months.

The "vacation 1966" concluded with a trip to the Maritime Provinces to attend the annual meeting of the Geological Association of Canada, in Halifax, and to take part in a field trip to Parrsboro, Nova Scotia, to study the evidence for former sea levels as recorded by raised shoreline features. These features, like those of the Great Lakes, are a part of the general uplift of the land which took place following the retreat of the glaciers.

That was the "vacation" this year. Its true value, however, will not be known until the data gathered from the field research are correlated, and the seeds planted through the educational ventures bear fruit.

ON THE NESTING TRAIL

Field study of birds follows the sun from the tropics north to Canada

Jon C. Barlow, Curator, Ornithology Department

Because of their diurnal habits and the availability of different species in each season, fieldwork on birds can be undertaken throughout the year. However, study in the breeding period, when birds are especially conspicuous, is most profitable for the researcher.

To the south this season begins a month to seven weeks before its onset in Ontario, and by judicious budgeting of one's time, it is possible to begin work in the tropics and follow the spring north as it activates birds in its wake. Thus, in the Department of Ornithology, our field work began in the middle of April with two efforts to the south.

Technician D. H. Baldwin collected specimens in British Honduras, working especially at Rockstone Pond where he was able to avail himself of "board and room" at the Museum's permanent archaeological site. Mr. Baldwin was to survey the avifauna of four basic habitats, secure anatomical material (skeletons and birds preserved in spirits) as well as skins and, at the same time, pay especial attention to the status of the resident vireos (Aves: Vireonidae)—a group of particular interest to the Curator. Between April 12 and May 18, Baldwin enjoyed success pursuing these goals, and he secured over 300 birds, as well as some bats and a few fish for the Museum's collection.

Between April 15 and May 16, the Curator travelled to the Trans Pecos area of west Texas to study the behaviour and ecology of the vireos of that area, placing special emphasis on the little known Gray Vireo (*Vireo vicinior*). The research, supported by a grant from the National Research Council, was undertaken in an effort to gain better understanding of the taxonomic relationships of North American vireos, as it is believed that ethological and ecological data in concert with morphological data will aid in re-evaluating present interpretations of phylogenetic relationships in the avian family Vireonidae. The trip was notably successful as much new information was obtained concerning the Gray Vireo. Seventy-eight bird specimens, along with some small mammals and insects, were secured for the Museum's collections. New information concerning the status of the Black-capped Vireo (*Vireo stricapillus*) and the Elf Owl (*Micrathens whitneyi*) was also obtained. Dr.

W. E. Lockhart, the Mayor of Alpine, Texas, staff and students of the Biology Department, Sul Ross College of Alpine, and National Park Service staff at Big Bend National Park (100 miles south of Alpine), contributed significantly to the over-all success of the venture.

In June, the Curator continued his studies in central Ontario, this time concentrating on the Philadelphia (*Vireo philadelphicus*) and Red-eyed (*Vireo olivaceus*) Vireos. Movies of fighting, maintenance and courtship behaviour, high fidelity tape recordings of vocalizations and specimens of the Red-eyed Vireo were secured on Manitoulin Island. The Curator was aided in the field by Rev. Charles Long, Research Associate in the Department of Ornithology, and by Ross James, a graduate student in the Zoology Department, who is studying the yellow-throated Vireo (*Vireo flaviventris*) under the Curator's supervision. After a week on the Island, the group returned briefly to Toronto. On June 15, the Curator and Mr. James turned north again for seven more days, covering an area from Sault Ste. Marie to Kirkland Lake with stopovers in Chapleau and Timmins. During this trip the interspecific relationships of Red-eyed and Philadelphia Vireos were examined and movies, tape recordings and specimens of each were taken.

Since we also are interested in determining whether or not Philadelphia Vireos demonstrate clinal variation in morphological characters across Canada, we undertook two additional collecting trips in June to secure specimens for this study. Mr. Baldwin collected vireos at Amos and Lac Ste. John, Quebec, between June 5 and 28 and our Junior Technician, Rolph Davis (between June 8 and June 14) took a series of both species at Schreiber on Terrace Bay in west central Ontario.

Turning our attention again to British Honduras between July 12 and August 6, Mr. Davis collected about 90 more birds there. In addition he obtained some valuable information concerning the summer status of certain shorebirds (Charadriiformes) in that country.

The Curator spent the period between July 22 and August 4 in England first attending the 14th International Ornithological Congress at Oxford and then visiting the Bird and Mammal Departments at the British Museum (Natural History) in London. At the Congress he presented a paper entitled "Morphostasis in the North American population of the European Tree Sparrow" based on five years' study of this species in the field and laboratory. It was shown that although no appreciable morphological changes have occurred since the introduction of tree sparrows in 1870 at St. Louis, the range of variation in some characters has been reduced significantly showing that genetic changes have occurred within the population. The evolutionary implications of this continuing research are of special interest.

Finally, in anticipation of hosting the 85th stated meeting of the American

Ornithologists' Union at the Museum in August of 1967, our entire "first team"—Barlow, Davis, Mr. J. L. Baillie (Assistant Curator), and Mr. J. A. Dick (Curatorial Assistant) attended the 84th meeting of this society at Duluth, Minnesota between September 5th and 9th. Now we are ready to settle down for the duration of the new academic term to a schedule that includes laboratory analysis of field data collected in the summer, teaching of a graduate course in ornithology, supervising two graduate students, curating of our burgeoning collection (now over 100,000) and preparing for next year's "vacation months in the field".

COURTESY *The Telegram*, Toronto

SOME NOTES ON FISHING

Rod and tackle box are hopefully included in equipment for archaeological field trips in northern Ontario

WALTER A. KENYON, Associate Curator, Archaeology Department

One of the fringe benefits of doing archaeological fieldwork in northern Ontario is the excellent fishing to be found there. So, each spring I carefully pack my fishing gear and add it to the rather mountainous pile of equipment that is necessary when one is going to live and work in the bush.

Last spring was no exception. I pitched camp at the Long Sault Rapids, on Rainy River, freighted in over two tons of equipment and supplies, and with a crew of fourteen people started to excavate an ancient burial mound. The mechanics of housekeeping and the establishment of archaeological procedures kept me occupied well into each night; my tackle-box, meanwhile, sat in a corner of the supply-tent.

Two months later the job was finished. We had collected the human bones from three burials; we had measured and photographed the log cribbing that had been placed around them some 2,000 years ago; and we had excavated and rebuilt the mound which marked—and still marks—the final resting place of some ancient statesman or warrior.

Our next project was to meet Bob Wheeler of the Minnesota Historical Society on the Winnipeg River north of Kenora. Here, with a gaggle of scuba divers, we were trying to locate some axes, muskets and other currency of the fur-trade which Alexander Henry lost when a canoe upset in the turbulent waters of Boundary Falls on August 9th, 1800.

Unloading our gear at the foot of the rapids, Bob and I sent the divers into a quiet pool where we suspected any heavy objects would be deposited. In about fifteen minutes, Claus Breede, my assistant, poked his bearded head out of the water and said: "Would you be interested in a case of axes?" While Claus was collecting his underwater camera and drawing-board, other divers reported muskets, kettles, ice-chisels, thimbles, beads and musket-balls. As every find had to be left on the bottom till it could be photographed and sketched, things suddenly became frantic. My tackle-box was forgotten as I doled out white plastic marker buoys, balls of twine, film for underwater cameras and band-aids for divers who forget that axes are sharp.

By the end of the day, the surface of the pool was dotted with a thicket

of marker-buoys, the divers were exhausted, the air cylinders were empty and my notes were a shambles. After supper, I worked on my notes and records while Claus and the other divers ran an air compressor far into the night.

Because most of the divers could only work for a long week-end, we were, as usual, pushed for time. The final day was therefore devoted to raising the specimens we had already located and photographed. With most specimens, this was no great problem. But one of the "objects" on my list of finds was actually a cluster of musket-balls. These had to be picked up individually and dropped into Javex bottles. As there were about 4,000 of them, the complexity and tedium of the operation is about the same as kneeling on a rock under 14 feet of water and turning over 4,000 pancakes or fried eggs!

When the entire collection was spread out on a flat rock at the edge of the river, it was an impressive sight. Here indeed was a fine sample of trade-goods. It was duly admired, photographed and counted; but then it had to be packed for shipment. By eleven that night the job was done and the jeep was loaded for an early start next morning.

On the long drive back to the Museum, Claus and I agreed that it had been a fine summer. Rather exhausting, but extremely rewarding scientifically. And we were looking forward to some leisurely fishing on the French River where we would continue our underwater search of the old canoe route of the voyageurs.